



PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Docket No: Q81024

Shigeharu URABE

Appln. No.: 10/820,724

Group Art Unit: 2879

Confirmation No.: 8989

Examiner: Sharlene L. LEURIG

Filed: April 9, 2004

For: EL PHOSPHOR POWDER AND EL DEVICE

RESPONSE UNDER 37 C.F.R. § 1.111

MAIL STOP AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Please consider the remarks below in response to the Action mailed January 26, 2005.

Claims 1-11 are all the claims pending in the application.

Applicant notes with appreciation the Examiner's indication of allowable subject matter at Section Nos. 12 and 13 (page 8) of the Office Action. Specifically, Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim. For the reasons that follow, Applicant submits that each of the pending claims (including Claims 1-3 and 6-11) is patentable over the art and should be allowed.

Referring to Section No. 2 at page 2 of the Office Action, Claims 1-3, 7, and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,644,193 ("US '193").

The Examiner asserts that US '193 teaches a phosphor powder containing phosphor particles that comprise zinc sulfide as the matrix thereof and contain an activator and a co-activator. The Examiner refers to column 11, lines 8-13. The Examiner also asserts that

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US '193 teaches the aspect ratio element of the claimed invention. The Examiner refers to column 6, lines 5-9.

Applicant respectfully traverses.

An alleged *prima facie* case of obviousness may be rebutted by showing that the art, in any material respect, teaches away from the claimed invention. In re Geisler, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997).

In the present case, Claim 1 requires at least 30% of the projected area of the phosphor particles contained in the EL phosphor powder to have an aspect ratio of at least 1.5.

US '193 repeatedly teaches away from the powder of Claim 1 in the following material respects. Therefore, the asserted *prima facie* case of obviousness is rebutted.

US '193 teaches away from the claimed aspect ratio of at least 1.5. Specifically, US '193 teaches an aspect ratio range of from 1.0 to 1.5 (column 4, lines 40-42) and a preferred aspect ratio range of from 1.0 to 1.2 (column 6, lines 20-22). Each of US '193's Examples use phosphor particles having an aspect ratio of 1.00 or very close to 1.00. Column 15, lines 25-27 and 61, column 16, line 40, column 17, lines 10 and 59, etc. Thus, the suggestion provided by US '193 to one of ordinary skill in the art is to move away from the claimed ratio of at least 1.5 and to move toward a ratio of 1.0.

As a matter of fact, US '193 provides a very strong motivation to move away from the claimed aspect ratio of at least 1.5 and to move toward an aspect ratio of 1.0. In particular, aspect ratio is defined as the length of a major axis of a particle over the length of a minor axis of the particle. A spherical particle would be expected to have an aspect ratio of 1.0. US '193 teaches a preference for spherical or near-spherical particles with no protruded edges. For example, reference is made to column 6, lines 19-20, and FIGS. 6-11 of US '193. US '193 teaches that the advantages of its invention are owed to the spherical nature of the particles. Column 6, lines 26-55, and column 12, lines 5-15.

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It is thus completely contrary to, and would in fact destroy, the teachings of US '193 to modify its disclosure so that at least 30% of the projected area of the phosphor particles contained in the EL phosphor powder have an aspect ratio of at least 1.5.

The powder of Claim 1 is not rendered obvious by US '193 for the following additional reason.

Applicant has discovered that the claimed phosphor particles having an aspect ratio of at least 1.5 are better able to uniformly emit bright light by virtue of their ability to be oriented in a predetermined direction. Applicant refers, for example, to the paragraph bridging pages 3 and 4 of the specification. It is completely unexpected from US '193 that the claimed phosphor particles having an aspect ratio of at least 1.5 are better able to uniformly emit bright light by virtue of their ability to be oriented in a predetermined direction.

For the foregoing reasons, Applicant respectfully requests reconsideration and withdrawal of the §103 rejection of Claims 1-3, 7, and 10.

Referring to Section No. 3 at page 3 of the Office Action, Claim 11 is rejected under 35 U.S.C. §103(a) as being unpatentable over US '193 in view of JP 8-183954 ("JP '954").

Claim 11 is drawn to an EL device comprising the phosphor powder according to Claim 1.

JP '954 does not cure the deficiencies noted above with respect to the §103 rejection over US '193 alone. That is, JP '954 does not provide any motivation to arrive at a EL phosphor powder wherein at least 30% of the projected area of the phosphor particles contained in the EL phosphor powder have an aspect ratio of at least 1.5. Therefore, Claim 11 is not rendered obvious by the combination of US '193 and JP '954 for the reasons noted above with respect to the §103 rejection over US '193 alone.

Referring to Section Nos. 5-11 at pages 4-8 of the Office Action, Claims 1-2 and 6-10 are rejected under the judicially created doctrine of obviousness type double patenting as being unpatentable over certain claims of copending U.S. Application No. 10/682,532, from which the present C-I-P application claims benefit.

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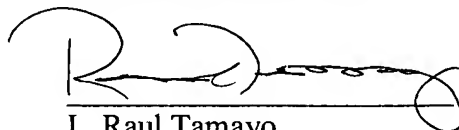
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In response, Applicant is submitting herewith a terminal disclaimer. The filing of the terminal disclaimer to obviate the rejections based on obviousness-type double patenting is not an admission of the propriety of the rejections, and raises neither a presumption nor estoppel on the merits of the rejections. MPEP §804.02. Withdrawal of the double patenting rejections is respectfully requested.

Reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "L. Raul Tamayo", written over a horizontal line.

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CUSTOMER NUMBER

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